

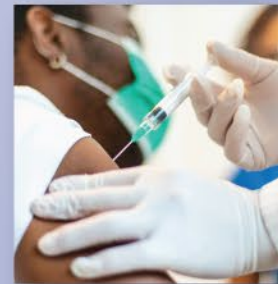
# Expanding Interoperability: Understanding the growing need for interoperable datasets to promote program efficiencies, equity, and alignment

## CMS Quality Conference 2023

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# AGENDA

- Overview of the United States Core Data for Interoperability (USCDI)
- Overview of the USCDI+ initiative and the quality domain
- Applying USCDI and USCDI+ to expand interoperability
- Ways to engage and get involved



# What is USCDI?



# United States Core Data for Interoperability (USCDI) Essentials, (Part 1 of 2)



USCDI

Comprises a core set of data needed to support patient care and facilitate patient access using health IT.

Establishes a consistent baseline of harmonized data elements that can be broadly reused across use cases, including those outside of patient care and patient access.

Expands incrementally over time via a transparent, established, and collaborative process, weighing both anticipated benefits and industry-wide impacts.



# USCDI Essentials, (Part 2 of 2)



USCDI

Ensures updates represent important new data, with only modest developmental and implementation burden that result in measurable improvements in utility.

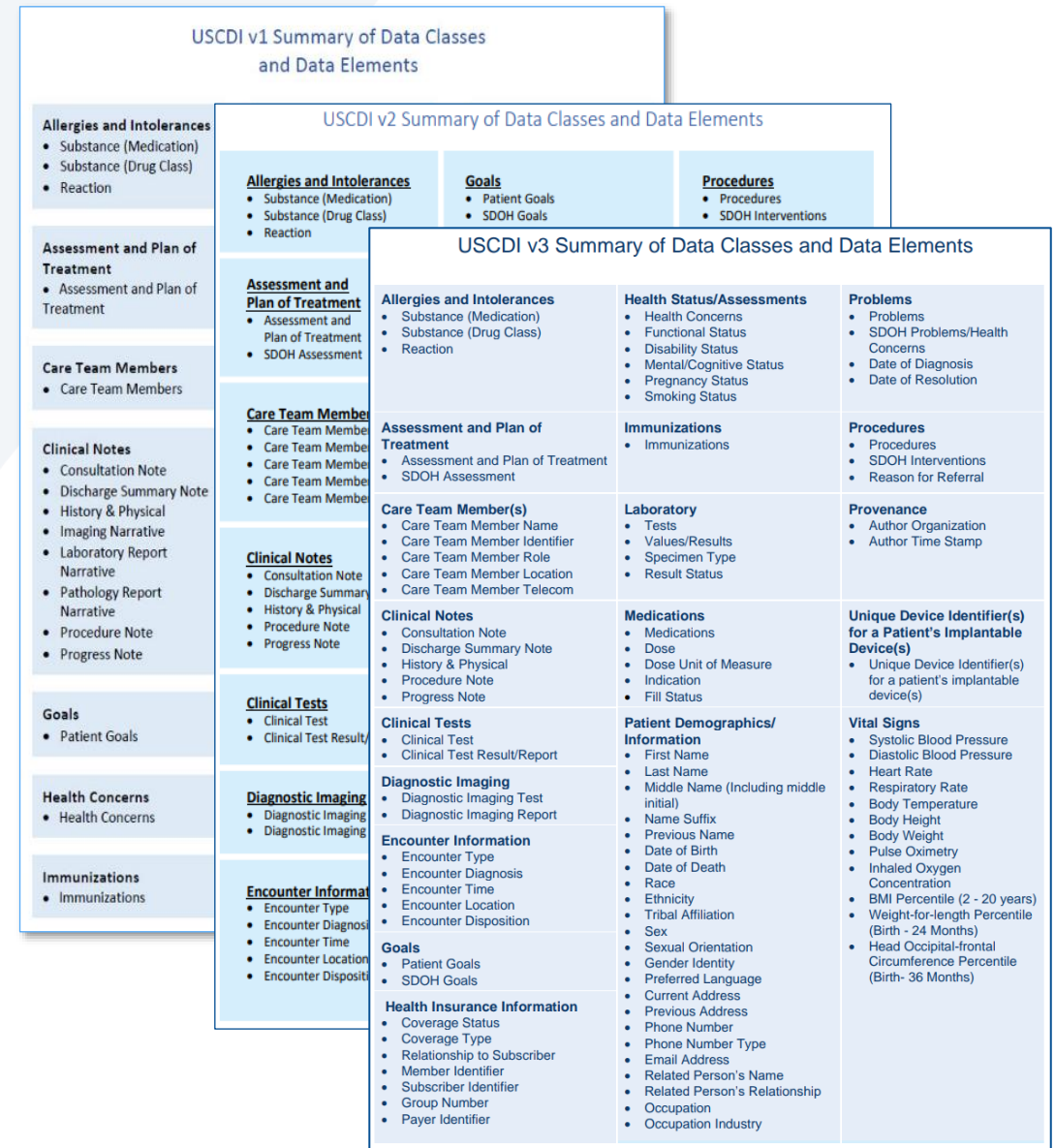
Is required for Certification in the ONC Health IT Certification Program: standards-based application programming interface (API) to access patient data

Is required by other HHS Programs as well: In 2020, CMS finalized API requirements for payers using USCDI



# USCDI: The 21st Century Cures Act and Beyond

- USCDI is the standard established by ONC in the 2020 21st Century Cures Act Final Rule, and includes four data elements: clinical notes, provenance, pediatric vital signs and address
- It's the minimum dataset required for interoperability
  - Defines required data elements and vocabulary standards
  - Agnostic to format
  - Focuses on patient access/care coordination use cases
- It's updated on annual cycle with federal agency and industry input
  - USCDI v2 added three data classes and 22 data elements in support of advancing health equity (SOGI and SDOH)
  - USCDI v3 adopts draft USCDI v3 and four additional elements in the Medication data class (≈ 80 data elements)



# USCDI v3



## Allergies and Intolerances

- Substance (Medication)
- Substance (Drug Class)
- Reaction

## Assessment and Plan of Treatment

- Assessment and Plan of Treatment
- SDOH Assessment

## Care Team Member(s)

- Care Team Member Name
- Care Team Member Identifier
- Care Team Member Role
- Care Team Member Location
- Care Team Member Telecom

## Clinical Notes

- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

## Clinical Test

- Clinical Test
- Clinical Test/Report

## Diagnostic Imaging

- Diagnostic Imaging Test
- Diagnostic Imaging Report

## Encounter Information

- Encounter Type
- Encounter Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

## Goals

- Patient Goals
- SDOH Goals

## Health Insurance Information

- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Number
- Payer Identifier

## Health Status/Assessments

- Health Concerns
- Functional Status
- Disability Status
- Mental Function
- Pregnancy Status
- Smoking Status

## Immunizations

- Immunizations

## Laboratory

- Test
- Values/Results
- Specimen Type
- Result Status

## Medications

- Medications
- Dose
- Dose Units of Measure
- Indication
- Fill Status

## Patient Demographics/ Information

- First Name
- Last Name
- Middle Name (Including middle initial)
- Name Suffix
- Previous Name
- Date of Birth
- Date of Death

- Race
- Ethnicity
- Tribal Affiliation
- Sex
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name
- Related Person's Relationship
- Occupation
- Occupation Industry

## Problems

- Problems
- SDOH Problems/Health Concerns
- Date of Diagnosis
- Date of Resolution

## Problems

- Procedures
- SDOH Interventions
- Reason for Referral

## Provenance

- Author Organization
- Author Time Stamp

## Unique Device Identifier(s) for a Patient's Implantable Device(s)

- Unique Device Identifier(s) for a patient's implantable device(s)

## Vital Signs

- Systolic Blood Pressure
- Diastolic Blood Pressure
- Average Blood Pressure
- Heart Rate
- Respiratory Rate
- Body Temperature
- Body Height
- Body Weight
- Pulse Oximetry
- Inhaled Oxygen Concentration
- BMI Percentile (2 - 20 years)
- Weight-for-length Percentile (Birth - 24 months)
- Head Occipital-frontal Circumference Percentile (Birth - 36 months)

★ New Data Classes and Elements

▲ Data Element Reclassified

➡ New Name for Data Element or Class



# USCDI v4 Prioritization Criteria

- Priority Data Element Updates
  - Address behavioral health integration with primary care and other physical care
  - Mitigate health and health care inequities and disparities
  - Address the needs of underserved communities
  - Address public health interoperability needs of reporting, investigation, and emergency response
- Development & Implementation Priorities
  - Represent important additions over previous USCDI versions
  - Require only modest standards or implementation guide developmental burden
  - Require only modest developmental burden on health IT modules
  - Create only modest implementation burden on providers and health systems
  - Result in only modest aggregate lift for all new data elements combined





# Draft USCDI Version 4

## Allergies and Intolerances

- Substance (Medication)
- Substance (Drug Class)
- Substance (Non-Medication) ★
- Reaction

## Care Team Member(s)

- Care Team Member Name
- Care Team Member Identifier
- Care Team Member Role
- Care Team Member Location
- Care Team Member Telecom

## Clinical Notes

- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

## Clinical Tests

- Clinical Test
- Clinical Test Result/Report

## Diagnostic Imaging

- Diagnostic Imaging Test
- Diagnostic Imaging Report

## Encounter Information

- Encounter Type
- Encounter Identifier ★
- Encounter Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

## Facility Information ★

- Facility Identifier ★
- Facility Type ★
- Facility Name ★

## Goals

- Patient Goals
- SDOH Goals
- Treatment Intervention Preference ★
- Care Experience Preference ★

## Health Insurance Information

- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Number
- Payer Identifier

## Health Status Assessments

- Health Concerns
- Functional Status
- Disability Status
- Mental Function
- Pregnancy Status
- Alcohol Use ★
- Substance Use ★
- Physical Activity ★
- SDOH Assessment ➡
- Smoking Status

## Immunizations

- Immunizations

## Laboratory

- Test
- Values/Results
- Specimen Type
- Result Status
- Result Unit of Measure ★
- Result Reference Range ★
- Result Interpretation ★
- Specimen Source Site ★
- Specimen Identifier ★
- Specimen Condition and Disposition ★

## Medical Devices ▲

- Unique Device Identifier – Implantable ▲

## Medications

- Medications
- Dose
- Dose Unit of Measure
- Indication
- Fill Status
- Medication Instructions ★
- Medication Adherence ★

## Patient Demographics/ Information

- First Name
- Last Name
- Middle Name (Including middle initial)
- Suffix
- Previous Name
- Date of Birth
- Date of Death
- Race
- Ethnicity
- Tribal Affiliation
- Sex
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name
- Related Person's Relationship
- Occupation
- Occupation Industry

## Patient Summary and Plan ▲

- Assessment and Plan of Treatment

## Problems

- Problems
- SDOH Problems/Health Concerns
- Date of Diagnosis
- Date of Resolution

## Procedures

- Procedures
- Time of Procedure ★
- SDOH Interventions
- Reason for Referral

## Provenance

- Author Organization
- Author Time Stamp

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▲ Data Element Reclassified

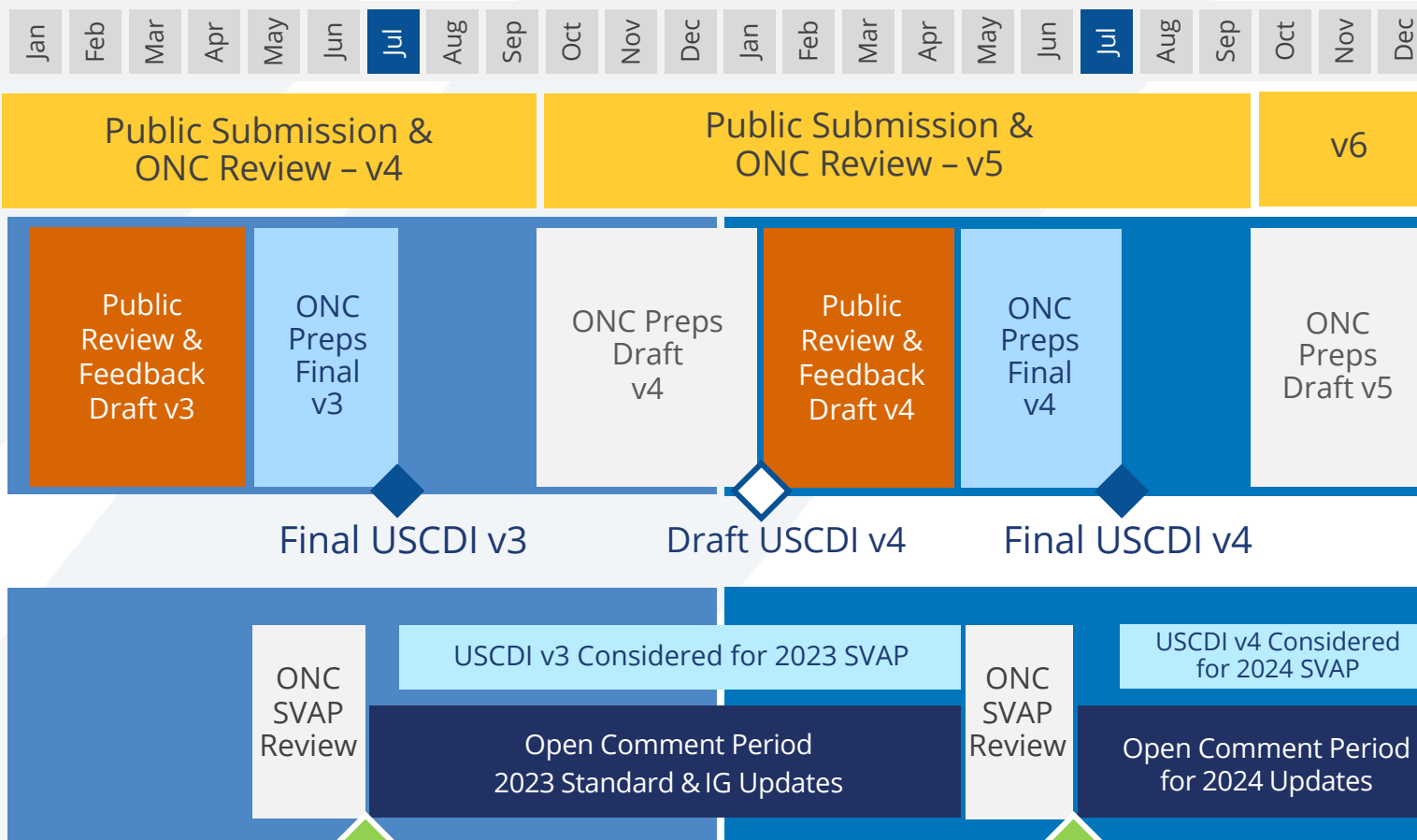
➡ New Name for Data Element or Class



# USCDI & SVAP Timeline

2022

2023



Final USCDI v3

Draft USCDI v4

Final USCDI v4

ONC Approved Standards for 2022 Available for Certification (60 days after release of SVAP 2022)

ONC Approved Standards for 2023 Available for Certification (60 days after release of SVAP 2023)



# Standards Version Advancement Process

The Standards Version Advancement Process (SVAP) allows developers to choose among the versions of standards and implementation specifications listed in regulation or National Coordinator (NC)-approved newer version updates for any or all standards applicable to criteria subject to real world testing requirements.

## Why is this important?

- Provides flexibility to approve newer versions of adopted standards without rulemaking.
- Institutes a predictable and timely approach within the Certification Program to keep pace with the industry's standards development efforts.
- Supports interoperability in the real world as updated versions of standards reflect insights gained from real-world implementation and use.

## How Versions Get Approved



# Why USCDI Matters

- Required for new certification criterion for application programming interface (API) to access patient data, using FHIR® US Core.
- USCDI v1 replaced the Common Clinical Data Set in these Certification Criteria, using C-CDA or US Core:
  - Transitions of Care documents (create, send, and receive)
  - Clinical Information reconciliation and incorporation
  - Patient View, Download, and Transmit their health data to a 3rd party
  - Electronic case reporting to public health agencies
  - Create C-CDA document
  - Access to data via APIs
- Referenced in CMS requirements for certain payers to establish APIs providing patients with access to their health information

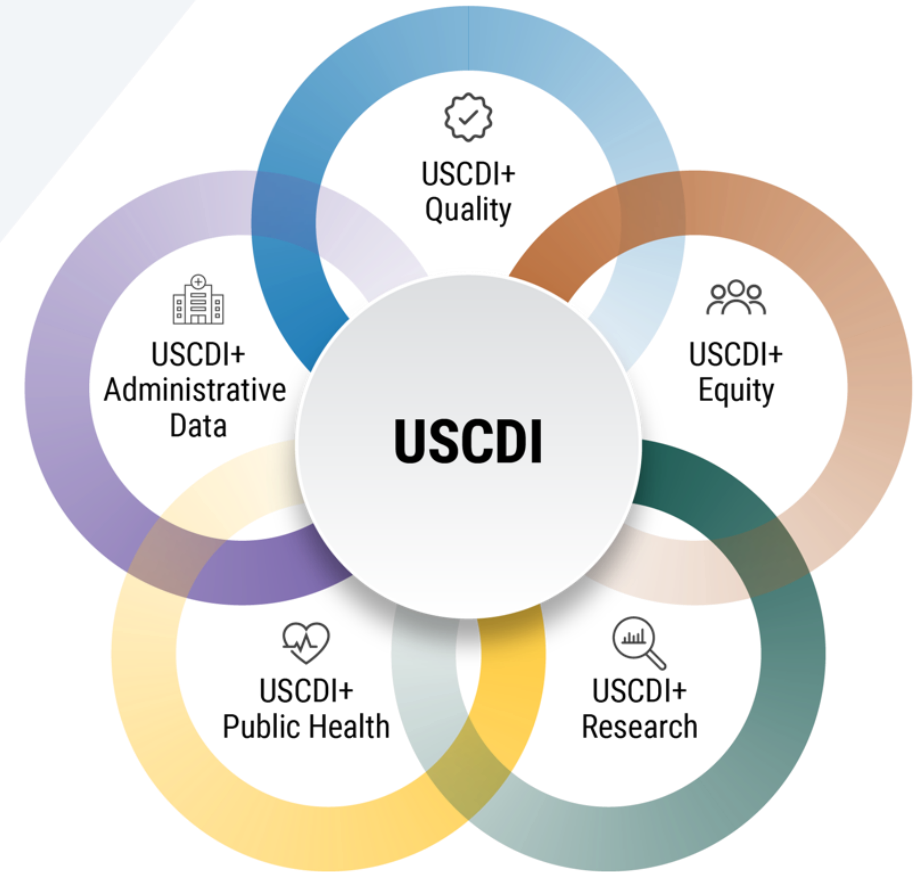


# What is USCDI+ and USCDI+ Quality?



# USCDI+: Extending Beyond the USCDI

- Unique program and use case-specific data needs are sometimes not fully met by USCDI.
- ONC's USCDI+ initiative helps government and industry partners build on USCDI to support specific program needs.
- Applies USCDI processes for submission and harmonization while focusing on programmatic priorities.
- Seeks to leverage programs and authorities across HHS to drive adoption.
- USCDI+ for Quality Measurement and Public Health kicked off with CDC, CMS & HRSA.

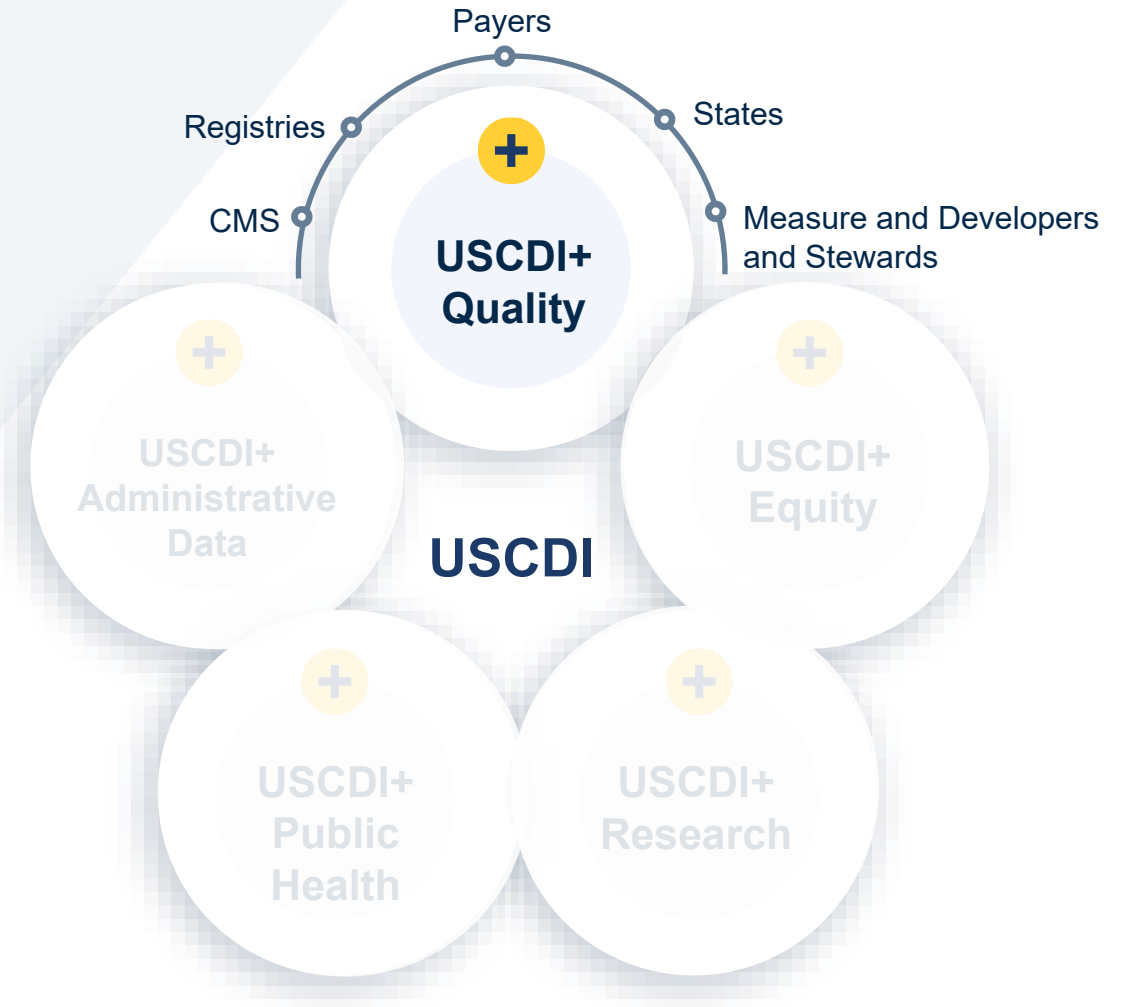


# USCDI and USCDI+ Alignment

USCDI	USCDI+
<b>USCDI data set</b>	<b>USCDI+ extended data set</b>
<input checked="" type="checkbox"/> Data class X	<input checked="" type="checkbox"/> Data class X
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<input type="checkbox"/>	<input checked="" type="checkbox"/> Data class X USCDI+
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# USCDI+ Quality Domain

- Capture the data needs for quality reporting that fall outside the scope of USCDI to support streamlined development and reporting of quality measures.
- Harmonize quality data elements into a common data set for quality that addresses multiple partner needs.
- Support CMS' Digital Quality Measures (dQM) strategy and development of harmonized data sets for FHIR-based quality reporting.
- Support HRSA's Uniform Data System (UDS) Modernization Initiative
- Identify opportunities for policy alignment around quality reporting programs under existing authorities across HHS agencies.



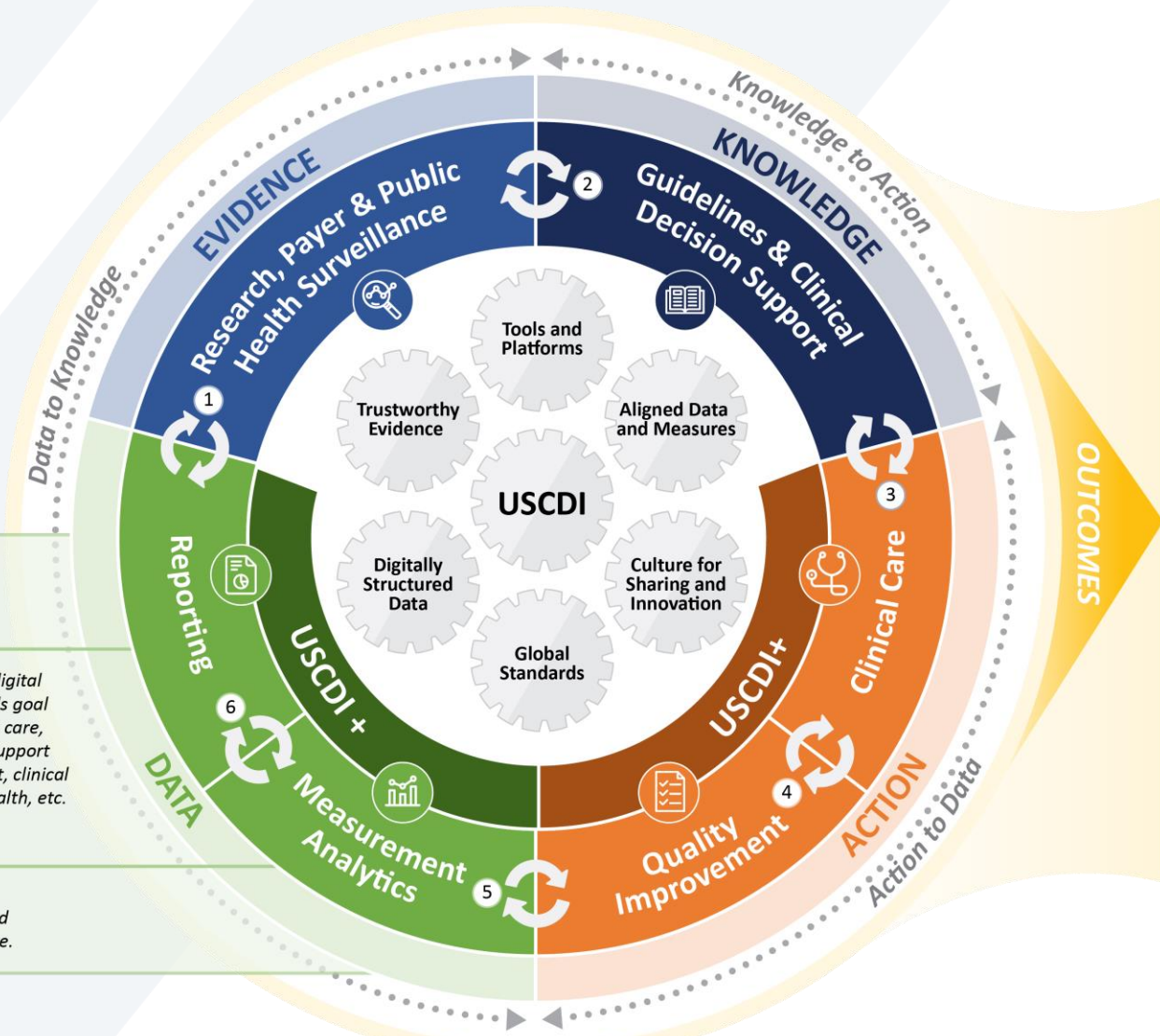


# USCDI, USCDI+ and the Learning Health System

**LEGEND:**  
Sponsoring HL7 Workgroups

- Clinical Decision Support (CDS)
- Clinical Quality Information (CQI)
- Public Health (PH)

Adapted from HL7 Clinical Quality Information (CQI) Workgroup by Maria Michaels, Centers for Disease Control and Prevention



**Digital Quality Measurement**

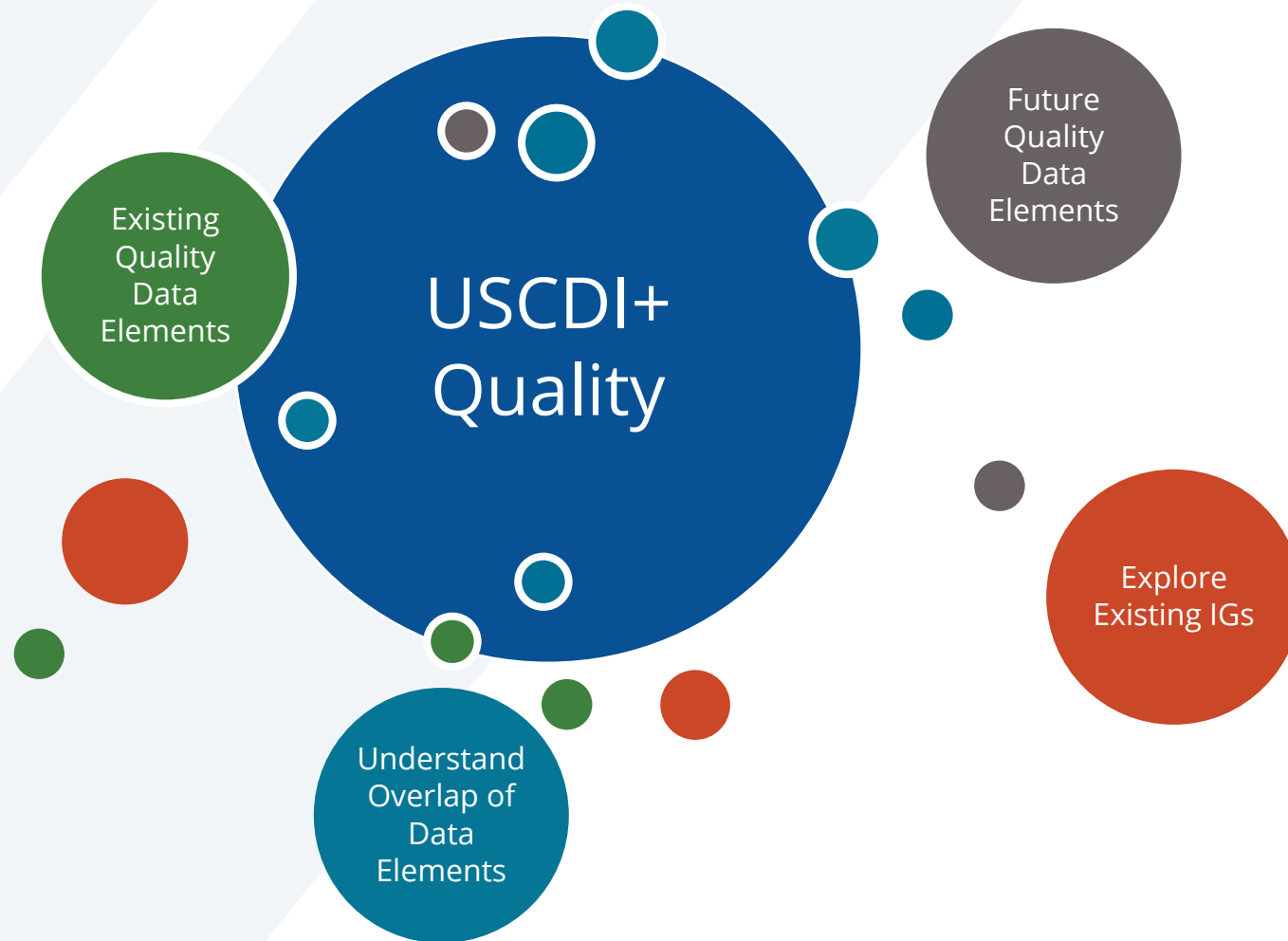
**Reporting**  
Quality measurement reporting via digital quality measurement advances CMS's goal of supporting delivery of high quality care, using the same data elements that support interoperability, quality improvement, clinical decision support, research, public health, etc.

**Measurement Analytics**  
Digital data is also used for quality improvement activities, analytics, and measurement to improve patient care.

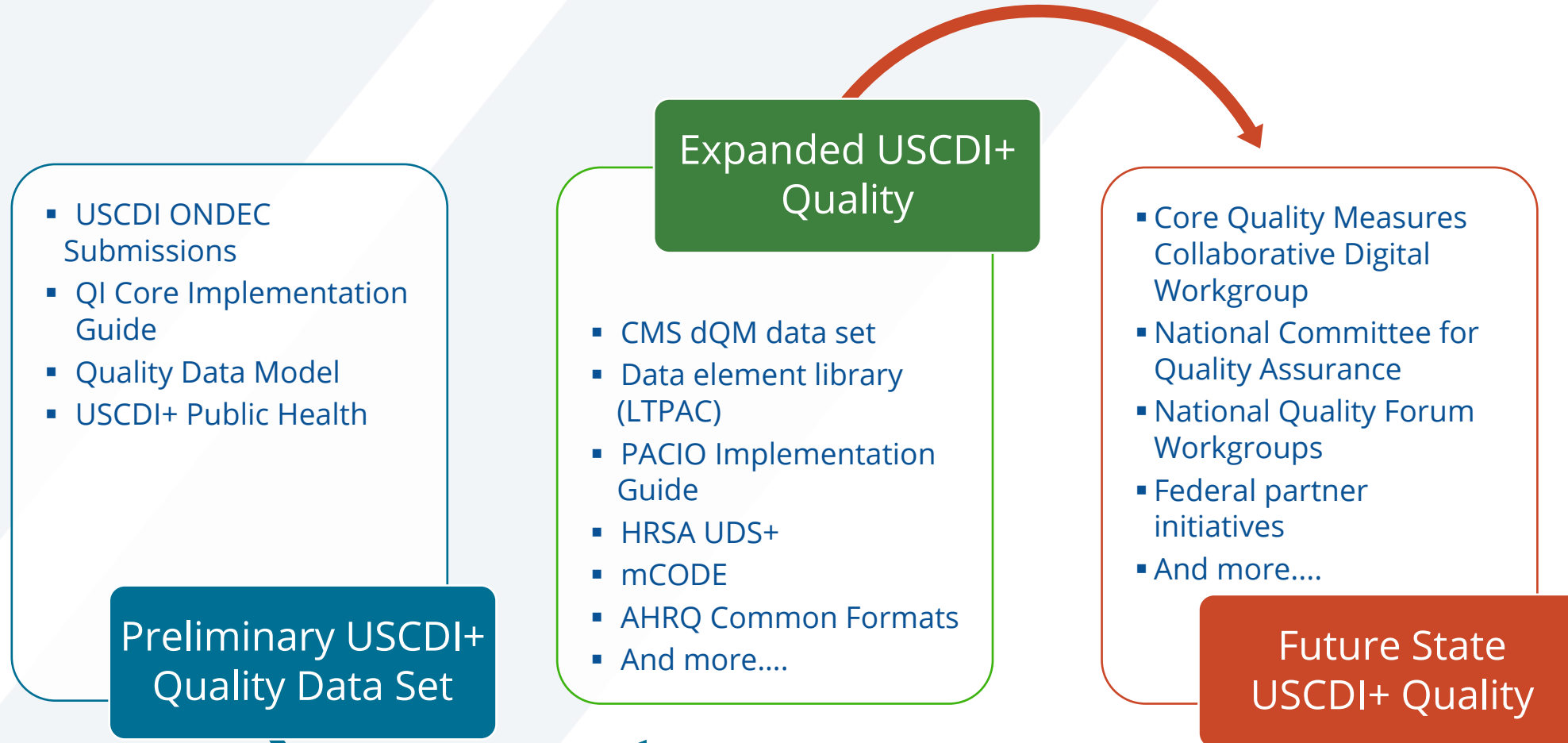
**High Quality Care for Patients**

- Rapid-Cycle Feedback and Continuous Improvement
- Usable and Timely Data from Multiple Sources
- Reliable and Valid Measurement

# Making the USCDI+ Quality Data Set



# USCDI+ Quality Data Activities



# Applying USCDI and USCDI+ to Expand Interoperability



# USCDI+ Quality Data Set Review

- In 2023 ONC will release a preliminary data set for input on:
  - Specified data elements that can be added to the data set now
  - Opportunities for harmonization
  - Future priorities for expanding the data set
- Ongoing input over time into the data set will ensure that we are maintaining an updated data set.
- ONC aims to develop a predictable process for review and input building on processes developed for USCDI.



# Utilizing USCDI+ Quality

- Once established, measure developers and stewards can specify to USCDI and USCDI+QM as the basis for measure development.
  - Specialties redesigning measures to meet changing clinical guidelines can leverage the data set to define clinical concepts that can be assessed from data created through clinical care rather than from subsequent administrative documentation and abstraction.
  - Quality improvement organizations working with clinicians, researchers and public health care can build measures to help define a set of core clinical concepts to aggregate and analyze across the full scope of different systems, settings, and programs.
  - Utilizing the data set for measure specification can drive further identification of gaps and activities to address those gaps.



# CMS dQM Strategy

ONC is collaborating with CMS to address core data and interoperability needs for CMS' FHIR quality reporting initiatives and health IT certification. This collaborative effort addresses:

- Supporting development of FHIR profiles and implementation guides for use in the ONC health IT certification program.
- Developing a future FHIR regulatory framework/certification model.
- Developing FHIR testing tools, resources, etc. to support quality measures.
- Informing CMS systems development for measure reporting and calculation.



# Potential Policy Impact

- The USCDI+ Quality Data Set can help to inform future program policy.
- Examples include:
  - ONC Health IT Certification Program
  - CMS Promoting Interoperability program and Inpatient Quality Reporting program
  - CMS Quality Payment Program (Promoting Interoperability/Quality Categories)
  - CMS Center for Medicare and Medicaid Innovation Activities
  - CMS Long-Term and Post-Acute Care Assessments
  - HRSA Uniform Data System and UDS+
  - SAMHSA's Certified Community Behavioral Health Clinics
  - AHRQ Common Formats





# USCDI+ and Data Interoperability: Supporting Health Equity Objectives

- Improved data interoperability supports more rapid data analysis and aggregation to identify ways to reduce health disparities and incorporate these into clinical guidelines.
- Implementation of interoperable standards and modern technologies leveraging structured data creates the enabling environment to more effectively measure health disparities in care quality through both process and outcome measures.
- Supports a future state where quality measurement can support advanced decision support to help identify risk factors and address health disparities in real time at the point of care.



# USCDI+: Next Steps & Timeframes

- Request and analyze feedback on preliminary data set from government and industry partners.
- Harmonize identified data elements with other USCDI+ initiatives (e.g. public health use cases, UDS+ reporting).
- Understand remaining standards gaps and priorities and identify ways to address gaps; next focus on behavioral health.
- Seek input from additional partners and request additional data elements to include in the USCDI+ Quality data set.



# Stay Informed!

## Resources

- [Health IT Buzz | The Latest on Health Information Technology from ONC](#)
- [United States Core Data for Interoperability \(USCDI\) | Interoperability Standards Advisory \(ISA\) \(healthit.gov\)](#)
- [Standards Version Advancement Process | Interoperability Standards Advisory \(ISA\) \(healthit.gov\)](#)
- [USCDI+ | HealthIT.gov](#)



Thank you!

